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ABSTRACT

The main purposes of this pilot study were to obtain school principals' evaluations of recent Central Michigan University graduates and to determine how the graduates felt about their preparation and the professors who had taught them. Seventy-nine principals evaluated 252 teachers in urban, suburban, and rural schools in lower Michigan. The sample was representative of employing communities and proportionate to the total number of elementary, secondary and special education teachers graduated by CMU during the calendar year 1968, 1969, 1970. Eleven criteria were used in the evaluation. A factor analysis yielded three factors in the evaluation: the skill factor, the human factor, and the academic factor. The evaluation form had both content and construct validity. Three of the eight conclusions of the study indicated that teachers prepared at CMU are better than average in their third year teaching, teachers prepared by CMU were satisfied with their education, and the way teachers feel about their instructors affects their satisfaction with their education. Further studies should be done using matched pairs of teachers surveyed and principals' evaluations of teachers based on behavior criteria. Appendixes include evaluations, factor and chi-square analysis. (MJM)

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A PILOT STUDY TO EVALUATE TEACHERS EDUCATED AT CENTRAL MICHIGAN UNIVERSITY

Elementary and Secondary
Graduated in 1969
Special Education
Graduated in 1968 and 1970

CENTRAL MICHIGAN UNIVERSITY
Mt. Pleasant, Michigan
January 29, 1972

by
Dr. C. Jarvis Wotring
under the auspices of the
Bureau of School Services
Dr. A. R. Gaskill, Director

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ABSTRACT
OF
A PILOT STUDY TO EVALUATE TEACHERS
EDUCATED AT CENTRAL MICHIGAN UNIVERSITY
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INTRODUCTION

The main purpose of the pilot study was to ask principals who had recent Central Michigan University graduates on their staff to evaluate them in their role as teachers. The same teachers were asked how they felt about their preparation and professors who taught them. Of further interest were the hypotheses that teachers and principals would tend to agree on their evaluations, that important factors of teacher evaluations could be identified, and the grade point averages and American College Test scores predict success in teaching.

Two hundred fifty-two teachers were evaluated by seventy-nine principals in urban, suburban, and rural schools in lower Michigan except for the southeast corner which is served by other colleges and universities.

The sample was representative by communities and by the proportions of elementary, secondary, and special education teachers graduated by Central Michigan University during the calendar years of 1968, 1969, and 1970. Of the ninety-four and six-tenths percent returns, eighty-nine percent were used. The five and six-tenths percent were too late to be used in the study.

The instrument provided for evaluation on eleven criteria:

1. Planning and Organization
2. Methods and Materials
3. Motivation
4. Evaluation
5. Management
6. Overall Classroom Effectiveness
7. Professionalism
8. Community Skills
9. Academic Preparation
10. Personal Qualities
11. Human Relations

Content validity of the evaluation form was determined by a group of about fifteen teachers in the Thumb Area of Michigan, by eighteen teachers in the Mt. Pleasant, Michigan area, and approved by the Central Michigan University Departments of Elementary and Secondary Education. A factor analysis of the form showed three factors in the evaluation: the skill factor, the human factor, and the academic factor. The evaluation form had both content and construct validity.

Use of the form by principals appeared to be reliable as far as could be determined by applying the "t" test to compare the mean of the self-evaluations of one hundred forty-four of the two hundred fifty-two teachers studied with the mean of the two hundred fifty-two teachers evaluated. The means were significantly alike at the .005 level of confidence.

Principals were asked to evaluate teachers on the eleven items by means of the rating scale below.

1.	Unacceptable teaching behavior
2.	Needs much improvement
3.	Needs some improvement
4. and 5.	Degrees of acceptable teaching behavior
6.	Better than acceptable teaching behavior
7.	Outstanding teacher behavior

Raters were forced to make a choice between four and five based on the assumption that a better distinction could be made to determine the areas of strength or weakness.

RESULTS AND CONCLUSIONS

Teachers prepared at Central Michigan University are better than average in their third year of teaching. Seventy-six and four-tenths percent received ratings of five, six, and seven. The mean was 5.2665 with a standard deviation of 1.14.

Table 1. ITEM RANKINGS BY MEANS WITH STANDARD DEVIATIONS

	Mean	S.D.
Personal Qualities	5.575	1.21
Human Relations	5.456	1.24
Professionalism	5.444	1.26
Academic Preparation	5.345	1.02
Communication Skills	5.293	1.09
(Items below deal with classroom effectiveness)		
Motivation	5.253	1.11
Methods and Materials	5.222	1.09
Overall Classroom Effectiveness	5.182	1.04
Management	5.095	1.32
Planning and Organization	5.079	1.13
Evaluation	4.988	1.08
Average of the Means	5.2665	S.D. 1.14

Items in the above chart, the reader will note, can be divided between those related directly to classroom effectiveness and other achievements of teachers. The item Management, with the greatest variance of any item, correlated .78 with Overall Classroom Effectiveness. This was true at the .005 level of confidence. The three things that, in the minds of evaluators, lowered the effectiveness of teachers were Management, Planning and Organization, and Evaluation.

Teachers were not judged too differently in urban, suburban, and rural schools. Judging by the "t" test, there might have been a difference between rural and suburban secondary teachers, as well as a difference between rural and urban teachers in special education. However, the sample was too small to draw this conclusion.

Teachers prepared by Central Michigan University were satisfied with their education. Correlations between teachers' self-evaluations and the items below were significant as shown:

SEV and Professional Education	.01
SEV and Rating of Instructor	None
SEV and Satisfaction with Present Position	.01
SEV and Present Life Style	None
SEV and Preparation in Fields other than Teacher Education	.01

The correlation between Ratings of Instructors and their Professional Education was also significant at the .01 level.

Table 2. RATINGS OF INSTRUCTORS AND SATISFACTION WITH PROFESSIONAL EDUCATION

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	35	.675	33		.430
Secondary	64	.335	62		.320
Special Education	42	.464	40		.393
Total N	141	.467	139		.219

Dr. Gaskill's follow-up study (August, 1971) showed that eighty-two percent of the elementary teachers, eighty-six percent of the secondary teachers, and eighty-eight percent of the special education teachers felt their professional education to be adequate or very good.

Grade point averages correlated low but significantly at the .05 level with the following:

	Pearson r
Overall Classroom Effectiveness	.1764
Professionalism	.1655
Communication Skills	.2105
Academic Preparation	.1360

ACT scores correlated .1524 significant at .05 with principals' observations of Academic Achievement. Seven correlations were negative, four were positive, and only the one mentioned was significant.

GPA's and ACT's did not predict teaching success according to principals' judgments of teaching success in this study. GPA's did the better job than ACT's, and then only on four items. The fact that there was little relationship was shown by a Chi-square analysis.

There are eight important conclusions:

1. Teachers prepared by Central Michigan University are average or better than average.

2. GPA's and ACT's do not predict success in teaching.

3. The School of Education should probably give some attention to the weak areas of Planning and Organization, Management, and the use of Evaluation techniques in teaching.

4. Regardless of the subdivisions, there are three factors that should be included in forms to evaluate teachers:

a. The skill factors
b. The human factors
c. The academic factors

5. Principals do a good job of evaluating teachers as was shown by consistency of their use of this instrument to rate teachers.

6. That teachers and principals tend to agree was determined by teachers' self-evaluations and principals' evaluations of those teachers.

7. Teachers who graduated from Central Michigan University are satisfied with their education.

8. The way teachers feel about their instructors affects their satisfaction with their education.

A PILOT STUDY TO EVALUATE TEACHERS EDUCATED AT CENTRAL MICHIGAN UNIVERSITY

Elementary and Secondary Graduated in 1969
Special Education Graduated in 1968 and 1970

SIGNIFICANCE AND PURPOSE

At this time, Central Michigan University's School of Education seeks more feedback on the performance of the teachers it has graduated. On page thirteen of the final draft of the Five Year Plan, Section Four, C, points out the need for a follow-up of the employers of recent graduates "to get their evaluation of the products of programs that have been conducted." This, with other information, would enable the School of Education to strengthen and revise programs as needed and provide for further research.

The Bureau of School Services already had some information from a survey on the group studied. It was felt that there might be some interesting comparisons between the attitudes of teachers and their self-evaluations.

STATEMENT OF THE PROBLEM

Basically, the purpose of the pilot study was to determine whether or not the School of Education is meeting its goals by seeking answers to the following questions:

1. How well do the teachers which Central Michigan University has prepared perform as evaluated by their employers? Are they prepared to be able to:

   a. Plan and carry out learning activities for students?
   b. Establish and maintain a classroom climate conducive to learning?
   c. Establish and maintain rapport with students and the others in the school?
   d. Be professional in their duties and active in professional activities?

2. Is there a relationship between grade point average and success in teaching?

3. Is there a relationship between the American College Test scores and success in teaching?

4. Are there any indications of relationship between students' attitudes toward their education and their success in teaching?

5. How can these findings be used to improve the work being done in the School of Education?

DEFINITIONS

Rural school systems were those described as being primarily in rural agricultural towns under five thousand in population.

Suburban school systems were those in cities within ten miles of industrial-business centers and urban communities; citizens were primarily commuters to larger cities.

Urban school systems were those in cities which were business- and industrial-centered. These cities had a population of ten thousand or more.

An elementary teacher is certified to teach grades K to eight.

A secondary teacher is certified to teach grades seven to twelve.

A special education teacher is certified for teaching special education students at the elementary or secondary levels. The preponderance of special education teachers participating in this study are certified as elementary.

Behavioral criteria are descriptions of teacher acts which can be quantified by experienced supervisors, in this case, principals.

ASSUMPTION

It was assumed that:

1. The criteria for a good teacher can be identified.
2. Such criteria are observable and can be scaled.
3. Experienced practitioners (school principals) can make valid judgments in evaluating teaching acts against the behavioral criteria.
4. Teacher self-evaluations have validity.
5. There is a relationship between teacher behavior and student learning.

INSTRUMENTATION

The evaluation form contained eleven items as follows:[1]

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1. See Appendix A for the evaluation form.

Planning and Organization
Methods and Materials
Motivation
Evaluation
Management
Overall Classroom Effectiveness
Professionalism
Communication Skills
Academic Preparation
Personal Qualities
Human Relations

These items were selected because they most commonly appear in evaluation forms. The behavioral objectives used as the criteria were descriptions of optimum teacher behavior expected. Further, the items were determined by twenty supervising teachers from the Thumb Area and verified by eighteen supervising teachers in the Mt. Pleasant Area. The behavioral objectives were accepted by the Departments of Elementary and Secondary Education.

The scale to evaluate achievement of the objectives ranged from one to seven. Number one was used as an indicator of unacceptable teaching behavior. Number seven was used to indicate full achievement of the described behavior. Purposely, raters were forced to choose between numbers four and five to indicate whether the teacher tended to be better or poorer than average. It was assumed that the intervals between the numbers were equal.

VALIDITY

Because the instrument was subjected to the scrutiny of two separate groups of supervising teachers and the criteria were found acceptable behavioral objectives by the Departments of Elementary and Secondary Education, it has content validity.

A factor analysis[2] of the eleven items of the evaluation instrument showed the top six items on the chart above to be the first factor. In this case, they were clearly all related to classroom effectiveness.

Personal qualities, Human Relations, and Professionalism, weighted in that order, came out a second factor.

Two items, Communication Skills and Academic Preparation, were a third factor.

Significance of the factors can be seen if they are labeled:

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2. See Appendix B.

Factor I	-	Skill Factors
Factor II	-	Human Factors
Factor III	-	Academic, Intelligence, or Learning Factors

When lambda was chosen for the computer run at 1.0, only one factor resulted. With lambda at .1, eleven of the items were discrete factors. The computer run with lambda at .5 produced the three factors reported. The evaluation form also has construct validity.

RELIABILITY

Principals' observations of Academic Achievement correlated significantly, .1524 with ACT scores at the .05 level.[3] The "t" test, applied to a sample of teachers' self-evaluations and principals' evaluations of teachers, was significant at the .005 level.[4]

Since some comparisons within this study were desired, the self-ratings of teachers in the same population were compared to the principals' evaluations of teachers in that population. They were not matched pairs, so the means of the two samples were compared to determine if they were indeed equal. Students' "t" was used with the following data. It was known that some place in the sample of two hundred fifty-two, the one hundred forty-four self-evaluations would be located.[5]

Self-evaluation: N=144, Mean 5.479, Variance .774. Overall Classroom Effectiveness ratings by principals: N=252, Mean 5.182, Variance 1.09.

Students' "t" was found to be 3.0 which was significant at the .005 level ($t_{.995}$=2.576).

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3. Walker, Helen and Joseph Lev, Statistical Inference, Henry Holt and Co., 1953, p. 470, N=166, r.95-.130.

4. Percentile values of "Students' Distribution" printed abridged from R. A. Fisher and F. Y. Yates, Statistical Tables, published by Oliver and Boyd. Ltd. by permission of authors and publishers in Walker and Lev, p. 475, ibid.

5. Data was obtained from the Gaskill, A. R. Final Report of the Second Annual Follow-up Study of Recent Graduates, School of Education, Central Michigan University, Mt. Pleasant, Michigan, October, 1971.

Table 1. COMPUTATIONS FOR STUDENTS' "T"

Ho: The means of the teachers' self-evaluations is not significantly different from the means of the principals' evaluations of teachers on the item Overall Classroom Effectiveness.

SEV	Mean = 5.479	S^2 = .785	N = 144
PET	Mean = 5.182	S^2 = .10899	N = 252

$$t = \frac{5.479 - 5.182}{\sqrt{\frac{.77}{144} + \frac{1.09}{252}}}$$

$$t = \frac{.297}{.00535 + .00432}$$

$$t = \frac{.297}{.00967}$$

$$t = \frac{.297}{.009}$$

t= 3.0

df = 394

t .955 = 2.576

The means are significantly alike.

Though not conclusive, this is evidence that principals will use the form in the same consistent ways to evaluate. The correlation of items one through five

collectively and item six also shows agreement. The correlation was .8642 significant at the .01 level.[6] All items correlate at the .05 level with each other.

LIMITATIONS

Performance-based criteria for evaluation of teachers were rather difficult to write into a form that was brief enough to ask principals to use, and specific enough that valid judgments could be made. Certainly, one of the limitations was that there were too many descriptions of behavior in a single criteria. This tended to offer the evaluator the opportunity to perceive much achievement of some of the specifics and little achievement in other specifics. The result could have been to choose a number on the scale somewhere near the middle of one of the seven ratings.

Biases and educational philosophies of evaluators also may have affected their judgments. It was hoped that specific criteria would reduce the amount of this kind of error because of subjective bias.

Perhaps principals were responsible for success through in-service education, and Central Michigan University could not take credit; such education is the exception rather than the rule.

Reliability of the instrument was determined only partially.

Of course, there was the matter of interpretation of the items. Again, the assumption had to be made that principals were familiar with behavioral criteria and that the criteria were commonly accepted by all evaluators.

No teacher evaluation instrument will measure the causes of a teacher's success or failure. The teacher's own background, education prior to university training, self-concept and self-discipline, may not be observable at any given time. Principals, however, would have had the opportunity to observe the participating teachers for two years prior to their evaluations because these teachers were on their first year of tenure.

SAMPLE

Eighty-five schools in or near the student teaching centers were included in the sample. The two hundred eighty-three subjects were identified as all of the Central Michigan University graduates of the classes of 1968 and 1970 in special education, and the 1969 graduates in elementary and secondary education

6. Walker and Lev, p. 470. op. cit.

teachers in a stratified sample of Michigan schools.

Two hundred fifty-two were returned in time for the study. This figure constituted eighty-nine percent of those sent. Another fifteen responses arrived late, bringing the returns to 94.6%, which indicated exceptional cooperation.

Rather than attempt a random sample and fewer numbers, all teachers who could be identified as indicated constituted the stratified sample.

Schools to be contacted were in or close to the student teaching centers to foster communication between the coordinator of the study and the public schools. Since the school systems were of different sizes and in rural, suburban, and urban areas, it was expected that there would be a satisfactory stratified sample.

Student teaching centers were located in areas from which Central Michigan University students are drawn. This area is described as sixty miles on both sides of a line drawn from Mt. Pleasant to Detroit. Included also were the Thumb Area, Grand Rapids, and a few schools in Northern Lower Michigan between Mt. Pleasant and Traverse City. Southwestern Michigan schools were not surveyed because they are served by other universities, and contacts, if needed, by university supervisors to the schools were not feasible. An added well-known fact is that teachers tend to return to home areas to teach. Concidentally, Central Michigan University student teaching centers are in those areas from which students are drawn.

The charts below indicate that the extent to which the sample was representative. The sample splits nearly fifty-fifty between elementary and secondary. By communities, forty-one percent were rural, thirty-seven percent were suburban, and twenty-two percent were urban.

Table 2. ELEMENTARY, SECONDARY, AND SPECIAL EDUCATION STUDENTS IN RURAL, SUBURBAN, AND URBAN SCHOOLS

	Rural		Suburban		Urban		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Elementary	37	15	30	12	21	8	88	35
Secondary	53	21	56	22	18	7	127	50
Special Ed.	12	5	8	3	17	7	37	15
	102	41	94	37	56	22	252	100

An analysis of the declared majors of the class of 1969 showed nearly twice as many persons who had earned secondary certificates as compared to those who had

earned elementary certificates. Two other points may be noted in the charts below: Of the declared majors, only 3.9 percent were elementary-special education, and .5 percent were secondary-special education. Thus, as would be expected, the sample was more heavily weighted with elementary-special education teachers.

Table 3. *DECLARED MAJORS - CLASS OF 1969 - SCHOOL OF EDUCATION

	Number	Percent	Total	Percent
Elementary				
Regular	370	22.56		
Special Education	64	3.90	434	36.46
Secondary				
Regular	1198	73.04		
Special Education	8	.50	1206	73.54
	1640	100.00	1640	100.00

*Source: Director of the Bureau of School Services, Dr. A. R. Gaskill's lists of students from which a random sample was taken for the survey of the class of 1969 and Special Education students from the classes of 1968 and 1970.

Table 4. SAMPLE COMPARED TO DECLARED MAJORS

	The Sample		Class of 1969 Declared Majors
	Number	Percent	Percent
Elementary			
Regular	88	35.0	22.56
Special Education	35	14.0	3.90
Secondary			
Regular	127	50.3	73.04
Special Education	2	.7	.50
	252	100.0	100.00

Also to be noted in the above charts is the fact that the number of secondary-special education teachers in the sample was about equal to the number which might be expected in any one class. The sample can be said to be representative.

ANALYSIS OF DATA

Before approaching the analysis, several things must be noted relative to means, standard deviation, correlation, upper and lower quartile of grade point averages, and American College Test scores.

For the major emphasis of this study, the means and standard deviations of the items made it possible to rank the items. This showed strong areas and weak areas of the teachers' evaluations collectively. Correlations would show relationship among the items, consistency or lack of it in the principals' ratings, and relationship of GPA's and ACT's to the items of the evaluation.

Upper and lower quartiles of ACT scores were discovered from the scores themselves wherein there was a percentile based on national norms given. A score of between twenty-four and twenty-five appeared to be the seventy-fifth percentile. A score of seventeen or eighteen appeared to be at the twenty-fifth percentile. Any differences were attributed to the date on which the tests were administered to a particular group. Arbitrarily, the scores of twenty-four and above were selected as the upper quartile, and scores of eighteen and below were selected as the lower quartile. This also provided an adequate sample, which was more important for the Chi-square testing procedure.

The upper and lower quartiles of the GPA's were determined from the sample itself. From the data, were were one hundred ninety-one available GPA's. From 2.29 down there was 22.5% of the sample. From GPA 2.84 above there was twenty-four percent of the sample. To obtain about twenty-five percent of the sample, therefore, the point 2.34 and down included at least twenty-five percent. Actually, it amounted to twenty-eight percent of the sample. GPA's of 2.75 and above included twenty-seven percent of the sample.

After computer analysis which selected cases from 2.34 down and 2.75 and above, a check by hand computation of 25.6 percent in the high group and 25.6 percent in the low group was done. The results were about the same.[7]

How well do Central Michigan University graduates perform as teachers? This was the central question asked in the study. To answer the question, the means and standard deviations for each item of the evaluation were obtained. Reference to the evaluation form in the Appendix will show that on a seven point scale, with the assumption that the intervals are equal, the numbers four and five would reflect acceptable teaching behavior.

The best indicator of the answer to the question above appears to be the

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[7]See Appendices C and D.

category of "Overall Classroom Effectiveness: Achievement of his students is at the level of expectation of his own and the school's objectives." The mean rating was 5.182 with a standard deviation of 1.044, indication that on a curve approaching normal most of the evaluations would be from 4.138 to 6.226. The average of the eleven means is 5.2665 with SD=1.143.

For the purpose of clarifying the points to which means of rating were compared, it was necessary to review the rationale for the rating scale. Directions to the raters instructed them to rank as follows:

1.	unacceptable teaching behavior
2.	needs much improvement
3.	needs some improvement
4. & 5.	degrees of acceptable teaching behavior
6.	better than acceptable teaching behavior
7.	outstanding teaching behavior

Raters were forced to make a choice between four (low average) and five (high average). More often, the principals selected ratings of five and above presumably because they had no "average" rating.

Table 5. ITEM RANKINGS BY MEANS WITH STANDARD DEVIATIONS

	Mean	S.D.
Personal Qualities	5.575	1.21
Human Relations	5.456	1.24
Professionalism	5.444	1.26
Academic Preparation	5.345	1.02
Communication Skills	5.293	1.09
(Items below deal with classroom effectiveness)		
Motivation	5.253	1.11
Methods and Materials	5.222	1.09
Overall Classroom Effectiveness	5.182	1.04
Management	5.095	1.32
Planning and Organization	5.079	1.13
Evaluation	4.988	1.08
Average of the Means	5.2665	S.D. 1.14

Items in the above chart, the reader will note, can be divided between those related directly to classroom effectiveness and other achievements of teachers. The item Management, with the greatest variance of any item, correlated .78 with Overall Classroom Effectiveness. This was true at the .005 level of confidence.[8]

8. Walker and Lev, op. cit., p. 470.

The three things that, in the minds of the evaluators, lowered the effectiveness of teachers were Management, Planning and Organization, and Evaluation.

Does this mean that Central Michigan University should give more attention to this area of teacher education? Or, does it mean that principals are biased in this direction? More on this later.

Three items that raised the average rating were Personal Qualities, Human Relations, and Professionalism.

The first question related to the general question concerning classroom effectiveness was: Are the teachers prepared by Central Michigan University able to plan and carry out learning activities for students? Principals gave them an average rating.

The second related question was: Are they able to establish and maintain a classroom climate conducive to learning? Teachers were rated average, but many individuals rated low.

Are these teachers able to establish rapport with students and others? was the third question. Personal Qualities and Human Relations of teachers ranked first and second highest. Respective means of 5.565 and 5.456 are well above the mean.

Third-ranking Professionalism, mean 5.444, was above the mean as was the fourth highest, Academic Preparation, with a mean of 5.345.

Giving attention to the first question, the chart below reveals that elementary teachers, secondary teachers, and special education teachers were rated with the same degree of objectivity by their principals.

Table 6.
*PERCENT RECEIVING OVERALL CLASSROOM EFFECTIVENESS RATINGS

Scale	1	2	%	3	%	4	%	5	%	6	%	7	%	Total %
Elementary	0	0		4	1.6	15	6.0	35	14.1	26	10.5	7	2.8	35
Secondary	0	2	.8	9	3.6	24	9.6	43	17.3	40	16.1	8	3.2	50.6
Special Ed.	0			0		5	2.0	13	5.3	13	5.2	5	2.0	14.4
			.8		5.2		17.6		36.6		31.8		8.0	100.0

*Based on returns 11/30/71 N=249

Nearly forty percent were rated above five. Seventy-six and four-tenths percent were rated five and above. Only six percent needed improvement. Twenty-three and six-tenths percent were rated four and below on this item of Overall Classroom Effectiveness.

Examining the means and standard deviations supported the above observation, with the addition that teachers were rated slightly lower by principals in rural schools. However, this difference was not statistically significant at the .05 level of confidence except in two instances, as will be shown below.

Table 7. COMPARISON OF ELEMENTARY, SECONDARY, AND SPECIAL EDUCATION TEACHERS IN RURAL, SUBURBAN, AND URBAN SCHOOLS BY MEANS AND STANDARD DEVIATIONS.

	Rural	Suburban	Urban
		Elementary N=88	
	Rural N=37	Suburban N=30	Urban N=21
Mean	5.162	5.166	5.380
S D	1.190	0.833	0.804
		Secondary N=127	
	Rural N=53	Suburban N=56	Urban N=18
Mean	4.867	5.250	5.166
S D	1.144	0.958	1.339
		Special Education N=37	
	Rural N=12	Suburban N=8	Urban N=17
Mean	5.083	5.500	5.705
S D	0.792	1.195	0.848
		Total N=252	

Students' "t" was used to test the hypothesis that the means of the various groups was equal. The null hypothesis that there was no significant difference between the means was rejected only for rural and suburban Secondary teachers, and rural and urban Special Education teachers. Difference in the others was assumed to be because of chance.

Table 8. COMPARISONS OF MEANS FOR EVALUATIONS OF ELEMENTARY, SECONDARY AND SPECIAL EDUCATION TEACHERS BY USING STUDENTS' "T".[9]

	Elementary N=88	
	Suburban	Urban N=21
Rural N=37	-.018	-.832
Suburban N=30		-.921 ($t_{.10}$=.85)
	Secondary N=127	
	Suburban	Urban N=18
Rural N=53	-1.884 ($t_{.05}$=1.67)	-.085 ($t_{.10}$=.85)
Suburban N=56		-.244
	Special Education N=37	
	Suburban N=8	Urban N=17
Rural N=12	-.866	-2.022 ($t_{.05}$=1.71)
Suburban N=8		.437
	Total N=252	

Judgment would let us accept the hypothesis that the means are comparatively equal. Teachers were not judged too differently in rural, suburban, and urban schools. For special education teachers, a difference may exist, but the sample was too limited to make this observation.

RELATED RESEARCH

The design of the related study called for correlations by Pearson r and examination of the upper and lower quartiles by Chi-square to determine any relationship between the GPA and teaching success, and ACT scores and teaching success. Teachers surveyed were within the same population as those in the first part of this study. They were asked to evaluate items on a seven point scale, seven being very satisfied, one being dissatisfied. Questions used to discover their attitudes were:

1. How well satisfied are you with your present position?

9. Walker and Lev, op. cit., p. 475.

2. How well does the community in which you live fit your life style?

3. How would you rate your preparation for teaching in work taken in other fields?

4. How would you rate your professional education overall?

5. How would you rate yourself as a teacher, comparing yourself with others having the same amount of training and experience?

6. In general, instructors in professional education courses were: Use scale below. (Circle one number only.)
Excellent 7 6 5 4 3 2 1 Poor.

To discover relationships, the teachers' responses were paired as follows:

Self-Evaluation	-	Professional Education
Self-Evaluation	-	Rating of Instructor
Self-Evaluation	-	Present Position
Self-Evaluation	-	Present Life Style
Self-Evaluation	-	Education in Fields Other Than Teacher Education
Ratings of Instructors	-	Professional Education

Analyzing the data was the next step.

ANALYZING THE DATA OF RELATED RESEARCH

In this section, tables of correlation obtained for elementary, secondary, and special education teachers responding to the questions are presented. Correlations, degrees of freedom and level of significance reached are reported in order to form the basis for discussion. Fisher and Yates tables provided levels of significance.

Table 9. SELF-EVALUATION - PROFESSIONAL EDUCATION

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	36	.300	34	----	----
Secondary	63	.313	61	.248	.323
Special Ed.	46	.290	44	.291	----
Total N	145	.302	143	----	.214

The overall correlation was significant at the .01 level. Teachers who thought of themselves as effective also believed their professional education to have been sufficient. However, this observation did not appear to be true for elementary teachers. It must be noted that correlations were low.

Even though there was a correlation between self-evaluations and feelings about professional education, none was apparent between self-evaluations and instructors.

Table 10. SELF-EVALUATION - RATING OF INSTRUCTOR

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	34	.117	32	---	---
Secondary	62	.037	60	---	---
Special Education	42	.182	40	---	---
Total N	138	.064	136	---	---

Not for any group was there a significant correlation between the teachers' self-evaluations and the rating of their instructors.

Table 11. SELF-EVALUATION - SATISFACTION WITH PRESENT POSITION

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	36	.177	34	---	---
Secondary	57	.152	55	---	---
Special Education	45	.230	43	---	---
Total	138	.188	136	.167	.219

It appeared that throughout the entire sample there was a small correlation significant at the .05 level between the teachers' feelings of success as an educator and satisfaction with their jobs.

Table 12. SELF-EVALUATION - SATISFACTION WITH PRESENT LIFE STYLE

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	36	.107	34	---	
Secondary	58	.025	56	---	
Special Education	46	.026	44	---	
Total N	140	.002	138	---	

There was no correlation between the way a teacher feels about his job as compared to the way that life in the community affects him.

Table 13. SELF-EVALUATION - SATISFACTION WITH PREPARATION IN FIELDS OTHER THAN TEACHER EDUCATION

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	34	.343	32	----	.335
Secondary	60	.221	58	.225	----
Special Education	44	.250	42	.298	
Total N	138	.260	136		.219

Elementary teachers' and all teachers' self-evaluations correlated with their positive and negative feelings about their preparation at the .01 level. The relationship for secondary and special education teachers reached the .05 level of significance.

Table 14. RATINGS OF INSTRUCTORS AND SATISFACTION WITH PROFESSIONAL EDUCATION

Groups	N	r	d.f.	Level of significance .05	.01
Elementary	35	.675	33		.430
Secondary	64	.335	62		.320
Special Education	42	.464	40		.393
Total N	141	.467	139		.219

Facts presented here are easily assumed, ordinarily. Correlations were higher and more significant for this set of relationships than any other set.

There were significant correlations between the teachers' self-evaluations and satisfaction with their education. Dr. Gaskill's study, referred to earlier, pointed out that eighty-eight percent of the teachers surveyed rated non-professional courses adequate or better, and eighty-five percent rated professional education courses adequate or better. Earlier, it was noted that the mean of teacher self-evaluations was 5.182 -S.D. 1.04 for principals' ratings on Overall Classroom Effectiveness. It is possible that the teachers who returned questionnaires to Dr. Gaskill were among the more confident of the larger group on whom Dr. Wotring collected data.

In the final analysis, there appeared to be a significant correlation between the teachers' self-images and their successes in college for this stratified sampling of teachers.

Does the Grade Point Average predict success in teaching? It is a more accurate indication of teaching success than is the ACT score. There was a low correlation between four of the items and the GPA. They were significant at .95, according to tables of Fisher and Yates in which significance at that level is reached with a correlation of .120 or better when N=191.

Table 15. SIGNIFICANT CORRELATIONS BETWEEN GPA AND FOUR ITEMS OF EVALUATION

GPA and Item:	Pearson r
Overall Classroom Effectiveness	.1764
Professionalism	.1655
Communication Skills	.2105
Academic Preparation	.1360

The highest of the four significant correlations between GPA's and each of the eleven items was the correlation of the GPA's and Communication Skills.

However, a Chi-square analysis of the GPA's as predictors of teaching success shows no relationship that can be verified statistically in this study.

Table 16. CHI-SQUARE FOR GPA'S AND PRINCIPALS' EVALUATIONS OF TEACHERS (OVERALL CLASSROOM EFFECTIVENESS), ITEM SIX

Rating Scale	1	2	3	4	5	6	7
Upper 25th percentile	0	0	4	8	16	20	3
Lower 25th percentile	0	1	4	9	20	15	5

Chi-square = 2.6339
Chi-square .10 = 2.2
Chi-square .25 = 3.5

It can only be said that any difference could be ascribed to chance.

The null hypothesis that there would be no significant difference between the upper quartile of GPA's and the lower quartile of GPA's as related to principals'

evaluations of teachers on Overall Classroom Effectiveness could not be rejected at the .05 level of significance.

Is one's American College Test score a predictor of teaching success? The answer was NO, according to the data in this study.

Statistics were used to approach the question from two angles. With one hundred sixty-six degrees of freedom and interpolation of the Fisher and Yates tables, Pearson r at .95 reaches significance at .130. Seven of eleven items had negative correlations, and four were positive. The only item that ACT predicted was Academic Preparation as observed by principals. The correlation was .15. The correlations of ACT's and the eleven items were:

Human Relations	-.0016
Planning and Organization	-.0155
Overall Classroom Effectiveness	-.0191
Management	-.0352
Motivation	-.0443
Methods and Materials	-.0571
Professionalism	-.0613
Evaluation	.0314
Communication Skills	.0374
Personal Qualities	.1230
Academic Preparation	.1524

However, when the lowest quartile of ACT scores and the highest quartile of ACT scores for ninety-six of one hundred sixty-six teachers on whom we gathered data were compared by Chi-square with the principals' ratings of Overall Classroom Effectiveness, it appeared that, to some extent, ACT might predict teaching effectiveness. This becomes apparent from the Chi-square table below.

Table 17.
CHI-SQUARE FOR ACT SCORES AND OVERALL TEACHING EFFECTIVENESS

	Rating Scale							
	1	2	3	4	5	6	7	Totals
75%ile and above	0	0	4	8	11	18	4	47
25%ile and below	0	0	2	6	22	14	5	49
Totals	0	0	6	14	33	32	9	96

Chi-square for ACT = 8.5419
Chi-square .25 = 7.8 and .90 = 10.6

The null hypothesis that there will be no difference could not be rejected at the .05 level. Any difference was attributed to chance. Observation of the fact that eighteen teachers who had ACT's above the 75%ile were rated six as compared to the twenty-two teachers with ACT's below the 25%ile who were rated five seemed to indicate some slight trend toward acceptance of the idea that ACT scores might predict teaching success.

The conclusion is that the apparent relationship of grades and ACT's to success in teaching can only be statistically attributed to chance, if determined at the .05 level of significance. The relationship was only acceptable at the .25 level, as was also true of the GPA's and teaching success.

So, the raw data for ACT scores and all eleven items was examined. All ratings of two or three (needs improvement) for one hundred sixty-six persons whose ACT's were available were tabulated. The list below shows that the areas of most problems were clearly indicated in items five, one, and four. The fewest problems were in areas indicated in items eight, ten, seven, and nine.

.98%	Ability to Manage a Classroom (5)
.78%	Planning and Organization (1)
.65%	Ability to Evaluate pupils' progress and use evaluations for future planning (4)
.49%	Motivation (3)
.49%	Human Relations (11)
.38%	Methods and Materials (2)
.38%	Overall Classroom Effectiveness (6)
.32%	Communication Skills (8)
.32%	Personal Qualities (10)
.27%	Professionalism (7)
.10%	Academic Preparation

Table. 18 RAW DATA TABULATIONS OF PROBLEM AREAS BY ACT SCORES

Eleven Items	1	2	3	4	5	6	7	8	9	10	11	Problems Totals	%
ACT 24 and above 1	7	2	3	6	7	4	1	3	1	3	4	41	2.24
ACT 19 to 23	5	4	2	4	6	1	2	2	1	1	3	31	1.69
ACT 18 and below	2	1	4	2	5	2	2	1	0	2	2	23	1.25
Problem Totals	14	7	9	12	18	7	5	6	2	6	9	95	
% of Problem Totals	.78	.38	.49	.65	.98	.38	.27	.32	.10	.32	.49		5.18

N = 166 x 11 = 1826 Total number of problems

Persons with ACT scores above twenty-four had almost twice as many problems as did those with ACT scores of eighteen and below. Their problems lay in three areas: Planning and Organization (item 1), Ability to Evaluate (item 4), and Classroom Management (item 5). However, it cannot be supported statistically that this is more than a chance arrangement. All three groups had problems in these areas, as did teachers in the entire sample.

Of the two hundred fifty-two teachers evaluated, approximately 5.2% were having serious problems during their third year of teaching. This means that only thirteen teachers were having problems.

CONCLUSIONS

Cooperation from the public school administrators was outstanding. Superintendents or their assistants responded with the names of teachers to be evaluated in their schools. Ninety-four and six-tenths percent of the principals evaluated the teachers specified, and eighty-nine percent were usable in the study. About six percent of the evaluations arrived too late to be used.

Teachers prepared by Central Michigan University performed well in their third year of teaching. The question "why?" could not be conclusively answered in this study because of the limitations suggested in the early part. Some findings seemed only to indicate a few possible reasons.

The teachers sampled felt that they had an adequate education, which correlated significantly with their feelings of success. Central Michigan University cannot, or course, claim all the credit. It must be recognized that C.M.U. attracts students from the lower-middle and middle class with all of their attendant values. Such teachers seem to be desired by school systems. No one knows whether or not C.M.U. alters that value system, or even if it is desirable to do so.

For all teachers in the sample, the average mean was 5.266 which indicated slightly above overall performance when compared to a rating of five as high average. Very few teachers in any category were rated "unsatisfactory" or "needs improvement". This was not surprising when one considered that the sample was drawn from third-year teachers with a small exception. Only five percent were having serious problems. This amounted to thirteen of two hundred fifty-two teachers.

Teachers were not judged much differently in rural, suburban, and urban schools. For special education teachers there might be a difference, but the sample was too small to be able to make this observation.

Teachers were rated more highly on Personal Qualities, Human Relations, Professionalism, Academic Preparation, and Communication Skills than on teaching skills. This probably can be explained by what they brought to their teaching experiences and any biases that the principals may have had in rating teachers.

Principals' biases may have been apparent in the low ratings given to Evaluation of Pupil Progress, Planning and Organization, and Classroom Management. Other skill factors of Motivation and use of Methods and Materials were certainly related, but were not rated as low.

Should the School of Education give more attention to the low-rated areas, or treat them differently? Probably, they should be treated differently than is now done.

Proof that principals can evaluate their teachers was evident. Mean scores of the item Overall Classroom Effectiveness, when rated by principals, agreed significantly with the way a sample of those teachers rated themselves. Principals' use of the evaluation instrument appeared to be highly consistent.

There seemed, then, to be ample proof that teachers prepared by Central Michigan University did satisfactorily or better than average in their third year of teaching, even though there was reason to believe that further attention might be given to the skill areas of Planning and Organization, Evaluation, and Classroom Management.

On the item Overall Classroom Effectiveness, which proved to be a satisfactory indicator, nearly forty percent were rated six or seven, the highest evaluations. Seventy-six and four-tenths percent were rated five, six, and seven, indicating average and above performance. Twenty-three and six-tenths percent were rated four and below, and only six percent showed need for improvement.

CONCLUSION FOR AREAS RELATED TO THE BASIC STUDY

Two related areas to the basic question of success in teaching as evaluated by principals of third-year teachers were given attention:

1. How do teachers feel about their teaching ability and their education?
2. Are the American College Test scores and the Grade Point Average predictors of teaching success?

How do the teachers sampled feel about their success in teaching as related to their education? There is a significant correlation between the self-evaluations and both the preparation in fields other than teaching and in teacher education. Correlation is highest between instructors and professional education courses, but there is no significant correlation between self-evaluations and ratings of instructors. Perhaps this is similar to saying that third-year teachers who were prepared at Central Michigan University attribute their success in teaching to their own efforts. How many of these teachers improved because of in-service education, help from principals, department heads, and colleagues is not known.

American College Test scores and Grade Point Averages did not predict teaching success. However, there was some indication in this study that some small relationship might exist. One might speculate that diligence is a bigger factor and, in itself, affects both the ACT and GPA.

A tabulation of raw data was of interest. This analysis showed that people with high ACT scores had twice as many problems as those with low ACT scores. Again, we can only speculate that those with low scores found it necessary to do a better job of Planning and Organization, Evaluation, and Management. It must also be admitted that these areas were viewed by principals as the weakest for all teachers studied.

Grade Point Averages predicted more areas of success than did ACT scores. GPA correlated significantly with Overall Classroom Effectiveness, Professionalism, Communication Skills and Academic Preparation, and ACT correlated significantly only with Academic Preparation. A Chi-square analysis showed, however, that any significant differences between the upper and lower quartiles was probably because of chance.

IMPLICATIONS

It seems obvious that some different kind of education in the areas of Planning and Organization, Evaluation, and Management may be in order if the possibility of the principals' biases are ruled out. Could more attention be given to simulation tactics in attacking this problem? Should instructors of supervising teachers place greater emphasis upon such tactics in their courses for those teachers? These are possibilities.

Readings from John Holt, Charles Silberman, and a host of other writers in the field of education would indicate that there are problems nationwide in classroom management. If this is indeed one of the weaknesses in preparation at Central Michigan University, further consideration should be given to the problem. Again, with the current staff at C.M.U., simulation would seem to be the method through which to approach the problem.

In all fairness, teachers surveyed in this study rated highest in Personal Qualities, Human Relations, and Professionalism. There may be less need to attend to these areas. The teacher's self-concept is not the only factor related to classroom management. Such factors as consistency in teacher behavior and the abilities to motivate, plan, organize, and evaluate are all important to the management of a classroom. Some attention should probably be given to what is actually done by college professors in teaching these specified skills.

FOR FURTHER STUDY

Before some of the problems can actually be attacked, much has to be known. Further study will be needed to uncover what these areas are.

Questions to be answered certainly include:

1. Who drops out of teaching? When and Why?
2. What are the criteria for a good teacher?
3. How can success in teaching be predicted?
4. What should the emphasis be in teacher education: personality development or teaching skills?
5. What teaching skills should be taught in the School of Education as opposed to those which should be taught in other schools of the University?
6. How do problems differ for first-year, second-year, and third-year teachers?
7. What is the University's responsibility for packaging in-service education programs for improvement of teaching during the first year?

Opportunities for research are numerous.

In this study, there was little solid evidence that GPA's and ACT scores are related to teaching success or lack of it. If, indeed, people with high ACT scores feel that they can rely on their intelligence more than on careful planning to teach, this should be proven. Does careful planning help the learner to compensate and do a satisfactory job of teaching? Very simple reasoning and a little educator bias would say yes. Perhaps college instructors must be more candid in pointing out the possibility to classes and to individuals. The game the more intelligent are able to play in college is either promoted by instructors through their attitudes toward scholarship and grades, or is a reaction to students who challenge them. It might also be that instructors or colleges have never really decided what the balance should be between the acquisition of knowledge and the development of skills.

In this era, it would seem that they are equally important, and some attention should be given to them as a problem facing educators. This could mean classification of the goals of the School of Education to make this as specific as behavioral criteria for teachers.

Secondly, the skills of planning, evaluating, and managing learning activities for students must be given consideration. Since the discussion is on further research, what is the possibility of building courses around these problems in such a way that college students are involved in the process. Behavioral criteria could be written for the courses and subjected to use in a control group of "traditional" supervising teachers and an experimental group of supervising teachers who would agree to specified ways in which students were involved. It would be an experiment between emphasis on cognitive development and total behavior development, with the newly certified teachers followed-up during the first year.

One aspect of this second problem might well be the extension of the experiment to the new full-semester programs. The questions to be dealt with are: Are planning, evaluating, and managing learned better during student teaching than in the college classroom? Should the School of Education's regular classes deal only with the cognitive aspects? How are supervising teachers involved, and to what extent should they be involved in helping student teachers learn these skills? In the present educational system, student teachers are expected to bring some expertise to the classrooms where they are learning these skills.

The final aspect deals with simulation. To what extent is it effective? To the behaviorist, this is not a question. It is more effective than a pure cognitive approach. Perhaps more planned study should be initiated by the School of Education to involve instructors in developing or purchasing simulated materials and projects.

According to this study, it seems that evaluation by the first six of the behavioral criteria could be used to accurately examine the skills of teaching. If any form of this type is to be used in further study, the six items should be subdivided into fifteen specific items for the first five, and the sixth left to check for consistency.

In the final analysis, it would appear that changes in the teaching of the School of Education should be based on research which affects Central Michigan University students, teachers who are certified, and college instructors. Further studies should be done by matched pairs of teachers surveyed and principals' evaluations of teachers based on behavioral criteria such as were used in this study.

APPENDIX A

CENTRAL MICHIGAN UNIVERSITY
EVALUATION OF TEACHERS CERTIFIED
IN 1968, 1969 AND 1970

The School of Education is attempting through this study to evaluate some of its graduates in teacher education for the years 1968, 1969 and 1970 and to set the stage for further evaluation studies.

As an administrator, you fully understand the importance of evaluation to continuing improvement of the teaching-learning process. We believe the process should be mutually beneficial: if we can find ways to produce better teachers, the children of your communities benefit.

Our part is to try to produce the best teachers. To do this we must evaluate our product. Since it is almost impossible for us to visit all of our graduates in any one year, we greatly appreciate your evaluation of our product.

The items selected for evaluation were determined by 20 supervising teachers from the Thumb Area and verified for their content validity by 18 other supervising teachers from the Mount Pleasant Area. Also, the items are those most often found on teacher evaluation forms.

Observers will note that the criteria are described in behavioral terms, i.e., the descriptions are of observable behavior of teachers. It should be possible for the observer to evaluate on the basis of what he sees the teacher doing.

Instead of a teacher's name each evaluation will bear a number, but it will have a name clipped to it. Therefore, you will be able to explain to the teacher that he will not be identified. Our purpose is not to judge an individual, but to obtain a composite picture of areas in which we succeed and fail in education of teachers. Anonymity of observers and teachers will be protected. When you have completed the evaluation form, please remove the name clipped to it and mail in the enclosed envelope.

TEACHER OBSERVED 0670 Grade level or subject and grade level _____
number only

Directions: Below are descriptions of optimum teacher behavior to be considered in your evaluation of each item. Circle the number at the right which indicates the degree of accomplishment. The following numbers mean:

1. unacceptable teacher behavior
2. needs much improvement
3. needs some improvement
4 and 5. degrees of acceptable teacher behavior
6. better than acceptable teacher behavior
7. outstanding teacher behavior

CLASSROOM EFFECTIVENESS

Planning and organization: He consistently uses and implements both long and short range plans. He incorporates the use of behavioral objectives reflecting the ability and needs of pupils. He involves pupils in planning. He is flexible in using plans, being willing and able to deviate. The timing and sequence of activities reflect his concern for the use of class time. 1 2 3 4 5 6 7

Methods and materials: He selects a variety of methods and materials which are appropriate and relevant to pupil levels and current societal needs. He accepts and uses pupil ideas in classroom interaction. 1 2 3 4 5 6 7

Motivation: He considers the individual needs of pupils in selecting learning activities and materials. He uses clear illustrations, practical applications, challenging questions and problems. He is personally interested and enthusiastic in his teaching. He establishes high expectancy levels with all learners. He applies basic principles of learning theory. 1 2 3 4 5 6 7

Evaluation: He uses oral, written and student self-evaluation for measuring the achievement of stated objectives. He uses evaluative data for planning future learning activities and as positive assessment of pupil needs. He maintains accurate documentation of evaluative data. Pupils feel that he is fair and consistent in evaluation. 1 2 3 4 5 6 7

Management: His students appear to be most self-directed. There is a climate of cooperation in which learning occurs and few disciplinary problems exist. Students feel that he is tactful and fair with both individuals and groups. His classroom practices are consistent with school policy. He displays common sense awareness of good human relations. 1 2 3 4 5 6 7

Overall classroom effectiveness: Achievement of his students is at the level of expectation of his own and the school's objectives. 1 2 3 4 5 6 7

PROFESSIONALISM

He knows and behaves in compliance with the teacher code of ethics. He participates in professional meetings and demonstrates interest in professional growth as evidenced by continued reading and study. He is alert to the need for school policies as evidenced by being able to interpret school policies accurately to others. He has a cooperative attitude toward implementing policies and turning in reports on time. He is knowledgeable regarding the organization, the structure, and the function of the professional association, and the school as a social institution. 1 2 3 4 5 6 7

COMMUNICATION SKILLS

Oral: His voice is clear and pleasant as evidenced by varied inflection, good modulation, and rate. He is effective in giving clear direction as evidenced by pupils not needing to ask for more direction. Presentations are interesting as evidenced by pupil attention and participation. He practices good grammatical skills, speaks without serious impairment, and his language level is appropriate to the level of pupils' understanding as evidenced by their enthusiastic participation.

Written: His written material is accurate in spelling, legible, grammatically correct, clear and concise in meaning, and appropriate to the level of pupils' or adults' understanding as required.

Graphic: He supplements oral and written communication with visual reinforcements such as: illustrations, charts, and audio-visual aids. 1 2 3 4 5 6 7

ACADEMIC PREPARATION

General knowledge: He is well read and knowledgeable as evidenced by his being interested in and conversant about a wide range of subjects.

Subject matter: He is well prepared, displaying an in-depth knowledge and understanding of his teaching field as shown by his ease in discussing and using content in organizing instructional materials. He utilizes contemporary subject material. He is competent in locating necessary and appropriate instructional materials. 1 2 3 4 5 6 7

PERSONAL QUALITIES

Self concept/mental health: These are demonstrated by his practicing constructive self criticism, by his accepting criticism, showing initiative and dependability by taking up problems and completing tasks independently. He is punctual. He accepts students' values and feelings. He has the ability to laugh at himself and encourages wit not sarcasm.

Appearance: His grooming and attire are appropriate to the occasion.

Health: His physical health permits him to comply with the leave days allowed in the master contract. 1 2 3 4 5 6 7

HUMAN RELATIONS

He has mutually satisfying relationships as evidenced by his being accepted by students, teachers, administration, staff and community. He gains group confidence as demonstrated by his accepting students and others with different abilities, attitudes, feelings and needs. He uses positive statements in his interaction with students and others. 1 2 3 4 5 6 7

Dear Observer:

Having served as administrators, we do understand how busy you are. We also know how concerned you are for having the best teachers to teach the children in your community. We trust that the results of this study, which is encouraged by the Dean of the School of Education, Dr. Curtis E. Nash, and done under the auspices of the Bureau of School Services headed by Dr. A. R. Gaskill, will prove mutually beneficial as we try to improve our programs of teacher education.

We do greatly appreciate your helping us with this study.

Sincerely,

Dr. C. Jarvis Wotring
Coordinator of the Study

APPENDIX B FACTOR ANALYSIS

Rotated Factor Matrix (Three Factors)

Variable 1	.73289	.35690	.29418
Variable 2	.72156	.29674	.33367
Variable 3	.77471	.30197	.25785
Variable 4	.74218	.18194	.31394
Variable 5	.70391	.41587	.18882
Variable 6	.79075	.34496	.28786
Variable 7	.34916	.77962	.16618
Variable 8	.36733	.29074	.78232
Variable 9	.37673	.30292	.77079
Variable 10	.26844	.82557	.29562
Variable 11	.35276	.78761	.28651

(The cut-off point for inclusion in each factor was .70.)

Factor I Variable	Skills Factors
1	Planning and Organization
2	Methods and Organization
3	Motivation
4	Evaluation
5	Management
6	Overall Classroom Effectiveness

Factor II Variable	Personal Factors
7	Professionalism
10	Personal Qualities
11	Human Relations

Factor III Variable	Academic Factors
8	Communication Skills
9	Academic Preparation

APPENDIX C CHI-SQUARE ANALYSIS

Ho: There will be no significant difference between the principals' evaluations of teachers in the upper quartile of GPA's and principals' evaluations of teachers in the lower quartile of GPA's.

	1	2	3	4	5	6	7	
Below 2.34	0	1	3	9	19	13	4	49
Above 2.75	0	0	4	7	16	19	3	49
	0	1	7	16	35	32	7	98

Below	0	E	0-E	$(0-E)^2$	$\frac{(0-E)^2}{E}$
1	0	0	0	0	
2	1	.5	.5	.25	.5000
3	3	3.5	.5	.25	.7142
4	9	8.0	1.0	1.0	.1250
5	19	17.5	1.5	2.25	.1285
6	13	16.0	3.0	9.00	.5625
7	4	3.5	.5	.25	.7142
					2.7444
Above					
1	0	0	0	0	.0000
2	0	0	0	0	.0000
3	4	3.5	.5	.25	.7142
4	7	8.0	1.0	1.0	.1250
5	16	17.5	1.5	2.25	.1285
6	19	16.0	3.0	9.00	.5625
7	3	3.5	.5	.25	.7142
					2.2444
					4.9888

d.f. (R-1) (C-1) = 1 x 6 = 6

Chi-square .50 = 5.35 and .70 = 3.83
Ho accepted.

APPENDIX D COMPUTER CHI-SQUARE ANALYSIS

Ho: There will be no significant difference between the principals' evaluations of teachers in the upper quartile of GPA's and the principals' evaluations of teachers in the lower quartile of GPA's.

Ratings	1	2	3	4	5	6	7	N
Above 2.84	0	0	4	8	16	20	3	51
Below 2.29	0	1	4	9	20	15	5	54

Chi-square 2.6339
d.f. = 6
Chi-square .10 = 2.2
Chi-square .25 = 3.5
Ho: Accepted.